

RAIKU: E-Commerce App using Laravel

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Abstract—Raiku is an e-commerce site-based app which developed with Laravel. The function of this app is to expand marketing network of Raiku Design business. After 2 months Raiku been hosting, there is an increase on the world visitors' numbers about 557 people. It is not only accessed by Indonesian, but also accessed around the world such Canada, United States, Australia, Germany, Great Britain, Chile, Russian Federation, India, China, South Korea, Israel, Netherlands, Ireland, Italy, and there are still more.

Keywords—e-commerce, business, laravel, service

I. INTRODUCTION

According to law number 7 of 2014, there are 14 kinds of services that can be traded in Indonesia. One of the services is business service. Business service is a business that engaged in services which produces intangible products [1]. One of business services is design service [2]. One of the things that often used by company nowadays is by using personal page on the internet. It is like the research conducted by Meiyu Aiko on UMKM. Website is able to give positive impact to their business [3]. The website usually is called e-commerce. E-commerce is a business where information technology is used to increase sales, business efficiency, and gives basis for new product or new services [4]. It can attract more customer to know about the product. So, it can make the company get success [5]. It gives benefit the country also [6].

Contribute to the increase of GDP [7]. In 2019 [8], Director of Informatics Empowerment, Ministry of Communication and Information Technology, Septiana Tangkary stated that the economic growth of electronic commerce in Indonesia is up to 78 percent. Those number is the highest in the world. Like the other research, e-commerce website built to make a Wiga Art, product in local markets, to worldwide [9]. Tawazun Outdoor Store in developed an e-commerce. Made in order to reach consumers who are far away from the store [10]. Laravel is a PHP framework released under open MIT source license and developed for the first time by Taylor Otwell on June 9th, 2011 and was built under MVC (Model View Controller) concept that efficient and understandable [11]. Laravel is a framework who stays on the top rank, not only in Indonesia but also in the world for the

last 5 years [12]. Many website development uses laravel. One of them is the development of website on the institution [implementing]. Development of e-commerce in arena meatball located in Depok [13]. Existing management information system at Semarang State University [14]. It shows that public interest is high in using Laravel. Raiku Design is a service business which established since 2016. Raiku Design is engaged in design services. The design made is focus on design branding identity only. Not only design, Raiku Design also provide printing design product that have been ordered. But, as for the marketing Raiku Design is still not wide ranged. Not everyone either in Indonesia or the world know and have social media such Instagram. Whereas the marketing that run now is only through Instagram and the information is come from mouth to mouth. That is what makes Raiku Design's owner face difficulties in developing Raiku Design. Therefore, in order for Raiku Design to be able to catch up, e-commerce will be developed, called Raiku also. The information about Raiku Design's products now can be seen by anyone, on any places, and any time. The framework used to develop it is by using laravel.

II. METHOD

A. Requirement Analysis

This step is to get data that can be used to develop the system [15], [16]. The data search is conducted by interviewing Raiku's owner. From these interviews it can be concluded that Raiku's owner needs e-commerce with the specifications as follows:

1. A web-based app that can be accessed through internet. Examples of the website pages are on figure 1, 2 and 3.
2. Provide complete information about the services (Design Branding Identity, include logo, mascot, poster, banner, packaging, illustration) and printing product (printed face cartoon character and include frame, placard, mug, envelope). The examples of the product are on figure 4 and 5.
3. Able to order printing product online by filling the available form.

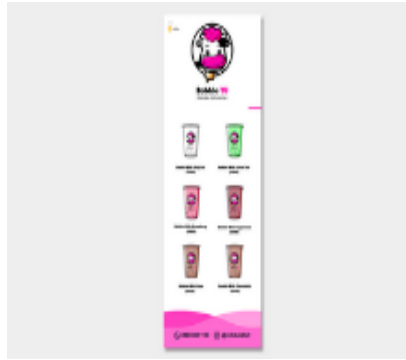
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Fig. 1. List of services offered.

Name of Product: Cetak Stiker
Category ID: PR004; Cost. Rp 1000



Name of Product: x Banner
Category ID: PR001; Cost. Rp 60000



Name of Product: Cetak Flyer
Category ID: PR001; Cost. Rp. 2000



Fig. 2. List of products on the website.

Name of Product: Pukis Kang Utsman
Category ID: PR001; Cost. Rp. 90000



Name of Product: Cetak Kartu Nama
Category ID: PR003; Cost. Rp. 30000



Name of Product: Cetak Packaging
Category ID: PR001; Cost. Rp. 3500



Fig. 3. List of products on the website.



Fig. 4. Logo product.



Fig. 5. Instagram feed product.

B. Designing

1. Architecture System

Depend on figure 6, we can know Raiku is website based. It is where the app hosted, so, the prospective customer are able to access the website using internet with www.raikudesign.com as the domain address. Even though this is a web-based app but the mobile owner also able to enjoy the display as eye catching as the PC version. The website display will adjust to the device used by the prospective customer. It is because of the display on this website is responsive.

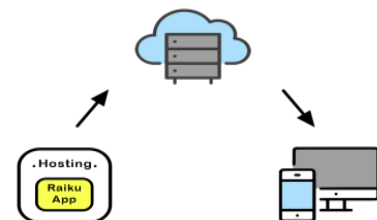


Fig. 6. Raiku app architecture system.

2. Use Case Diagram

Use case diagrams consist of scenario that show how the system work with end users [16]. Not only internally, it also shows how a system interacts with the external entities [17]. On figure seven it can be seen that this system has two users, that is admin and customer. The customer is able to do some activity, mention

seeking information related to Raiku in the website, order printing product services online, monitor their orders.

The admin also able to do some activities, mention managing goods and services, managing information in

the website, confirm payment from the customer, making report about best-selling products and services, also make product and service sales report. Managing activity means adding, cutting, changing, or deleting data

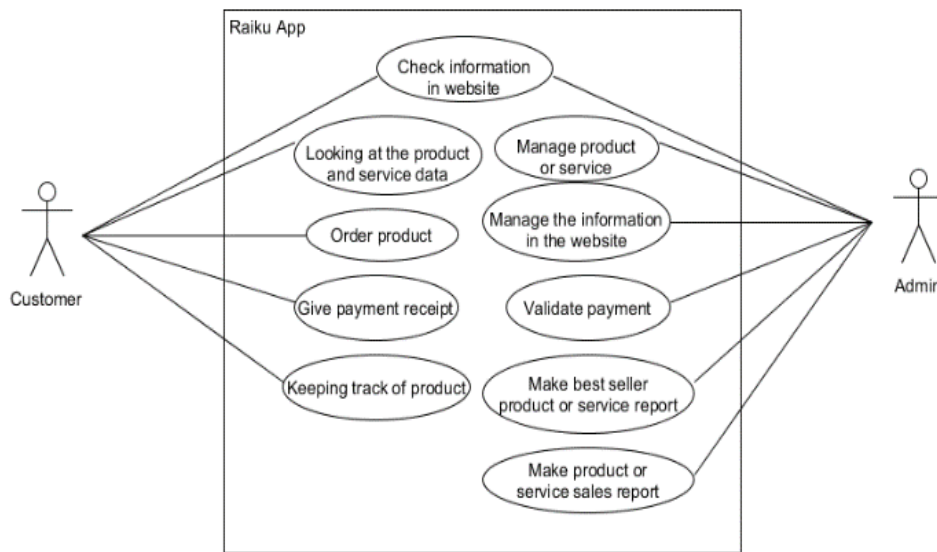


Fig. 7. Use case app.

3. Use Case Diagram

Activity diagram illustrates the flow and component that are in the system, including activities, objects, states, state transitions, and events [18], [19]. Prospective Customer saw information about Raiku in the website. One of the information that can be fetch is about the product that Raiku have. Those products can be purchased by filling the form on special page for product purchase. After purchasing, the customer able to make payment according to the total purchase. Customer also able to monitor the process until the product is finish.

4. ER Diagram

Figure 9 shows us about the Entity Relational Diagram. That is a technique used by analyze system to model an organization's requirements in the system development project requirements analysis phase [20].

Information displayed on the website is saved into 13 tables which related one to another. Purchasing table will save customer data who use Raiku design service.

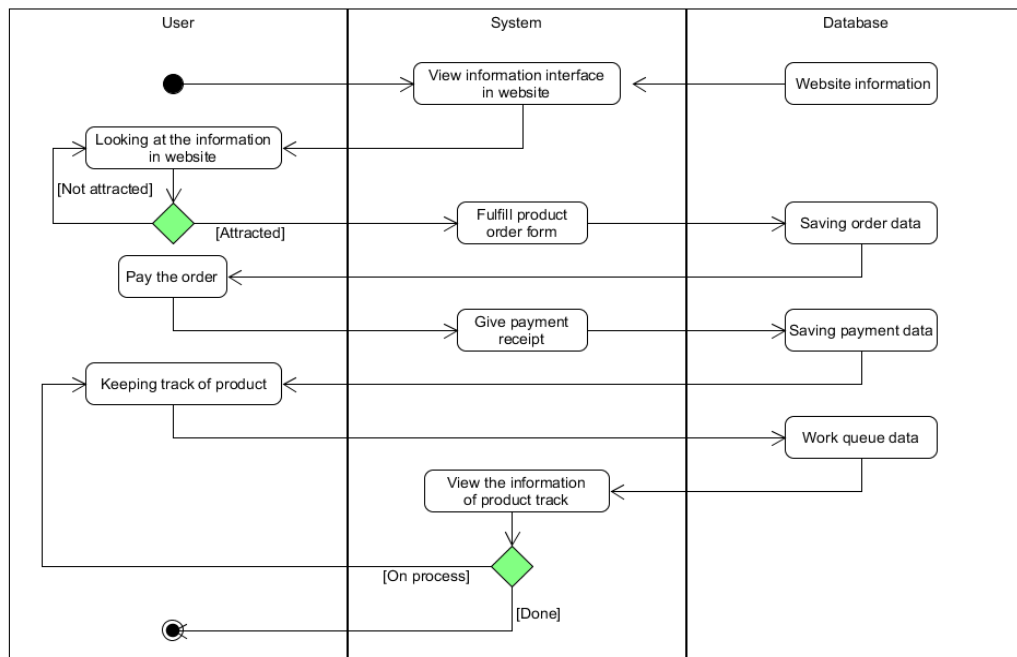


Fig. 8. Product purchase activity diagram.

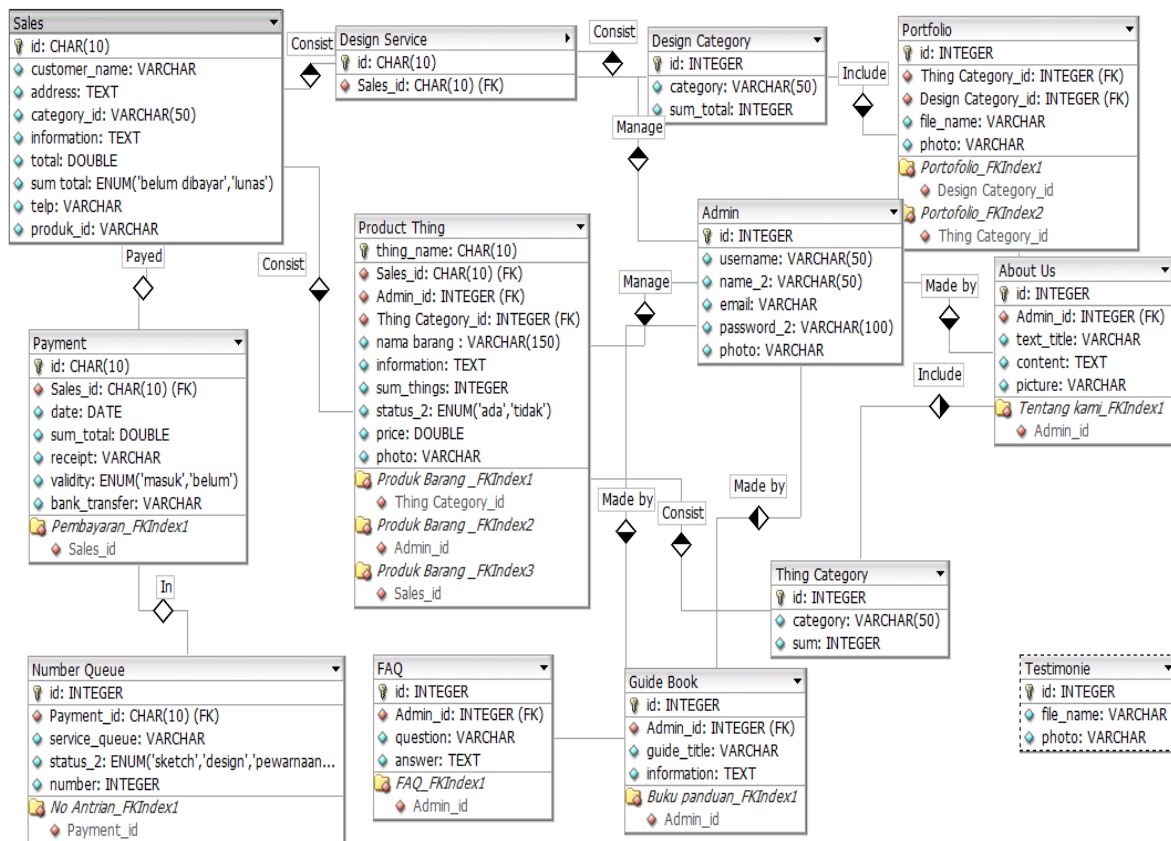


Fig. 9. Product purchase activity diagram.

C. Development

This app is developed using Laravel 5.8, Bootstrap 4, Apache, MySQL, PHP 7.3, Atom, and Client Server. On using laravel, it uses model, view, controller, guard, middleware, MD5, etc.

D. Testing

The units are integrated into one. After that examination by using black box testing will be performed. Black box testing is a testing technique where the tester does not know about the internal work and only examine the fundamental system aspect [21].

E. Implementation

On this step, it is done by Raiku Design's owner by rent a web hosting with the name www.raikudesign.com. Raiku Design's owner or prospective customer now able to access www.raikudesign.com.

F. Maintenance

Maintenance will be performed after the application is applied by fixing bug and program error so this app can perform on its best to help Raiku Design's owner.

III. RESULTS AND DISCUSSION

A. Implementation

The website developed for Raiku is using framework laravel with PHP language program as back-end, Bootstrap

as front-end and MySQL as database. There are 2 actors in this system, they are admin and client. Admin is managing information as well as product data in the website includes purchasing report. While client on the other hand are able to make purchasing, confirm payment, and monitor their order.

Here is the example of Raiku's website display: Display on figure 10 is display that only accessible for the admin. On this page admin is able to add data about name of services, information, services, and services category. On the navigation menu on the left there are some menus, it includes; dashboard, input, category, type of business, sales input, sales recap, payment, queue, marketing input, marketing, queuing, and profile setting. Dashboard menu is the main display on admin page. It contains information about queueing, sales list, and payment list. The information displayed is read only.

Figure 11 is client page which function is to display services data. On this page the data displayed is name of service packages, prices, as well as information about the packages. Main menu is 'home' menu, this menu shows plus point on Raiku, data of some design, some printing products, and portfolios. If the client wants to see more information about the design, printing product, portfolio, client can click 'more information' button. It will direct into the destination page.

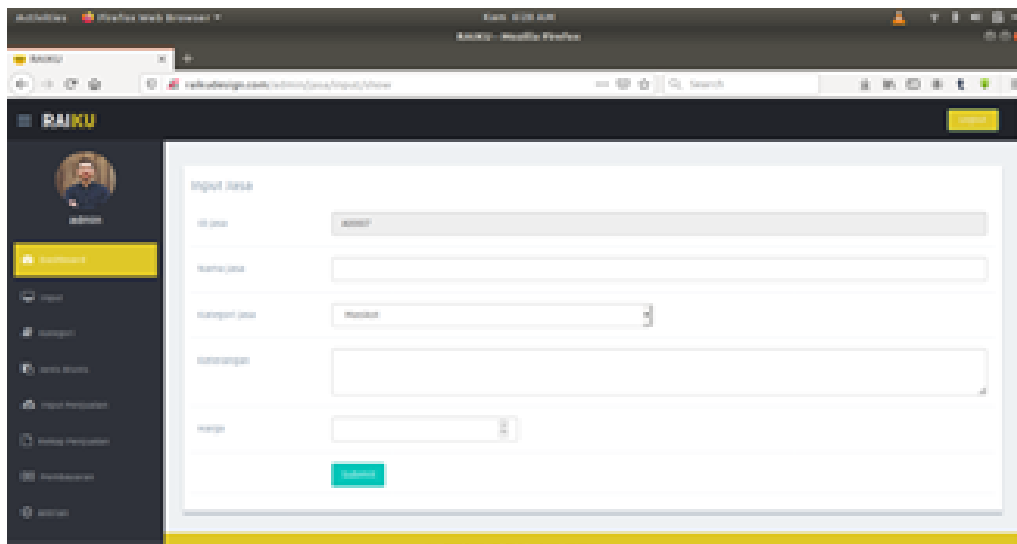


Fig. 10. Admin display to input service data.



Fig. 11. Client page to show services data.

The next menu is 'about us'. This menu will show the page that displays information about Raiku. The next menu is 'product' menu and there are to sub-menu, design and printing product. In this menu, there will be complete information about design and printing product available on Raiku.

The next menu is 'our services'. This menu contains service for using Raiku services. Those pages are FAQ, guidebook, purchase form, confirmation form, also monitor feature to monitor order status. FAQ menu will display most frequented asked questions by customer as well as the answer. Guidebook displays guide about how to purchase products or services, payment, also monitor order status. Purchasing form displays form that can be used by customer to purchase goods online. Customer will input data according on what is written in the form. After purchasing, customer is able to confirm payment by sending photo of payment receipt through confirmation form page. After payment receipt is

sent, admin will check and will validate the payment. If the payment already validated, order will automatically get on the queue list. Customer now able to monitor the process of their order through 'checking' menu. Customer have to input payment id and order status will appears.

Figure 12 shows the statistic of Raiku's web visitors during February 2020. It is clear that Raiku's web has been seen 1,302 times from Indonesia, 476 times from United States, 230 times from China, 442 times from Australia, 262 times from Canada, 35 times from Great Britain, 6 times from Russia and Europe, 2 times from Czech Republic and Ukraine, 1 time from French, Chile, Germany, South Africa, Netherlands, Seychelles, and Turkey. Many countries are now able to know about Raiku's products. Moreover, customer who purchase is not only from Solo (Raiku Office), but also from Lampung and Makassar. If considered from the visitors who accessed the website, there are an increasing number about 557 people since this website hosted.

Locales					
Locales		Pages	Hits	Bandwidth	
Indonesia	id	274	1,302	72.47 MB	
United States	us	251	476	15.30 MB	
China	cn	230	230	1.14 MB	
Australia	au	106	442	28.86 MB	
Canada	ca	44	262	11.60 MB	
Great Britain	gb	8	35	2.37 MB	
Russian Federation	ru	6	6	59.07 KB	
European country	eu	6	6	24.06 KB	
Czech Republic	cz	2	2	38.06 KB	
Ukraine	ua	2	2	28.57 KB	
France	fr	1	1	5.16 KB	
Chile	cl	1	1	5.16 KB	
Germany	de	1	1	5.16 KB	
South Africa	za	1	1	23.81 KB	
Netherlands	nl	1	1	5.16 KB	
Seychelles	sc	1	1	4.98 KB	
Turkey	tr	1	1	4.98 KB	

Fig. 12. Raiku's web visitors statistic.

B. Testing

Black box testing only examines fundamental system. But, when doing this testing, tester must know about the architecture system and not having source access code [21]. Testing steps, system already succeed in showing design service and printing product information. It proves that this

website is able to be digital display for Raiku and make customer able to see information about Raiku whenever and wherever they needed. System is also able to show about the progress of the order. Making it easier for the customer to estimate when will the product finish and can be taken. Therefore, it makes the system much more interactive with the customer.

TABLE I. BLACK BOX TESTING RESULTS

No	Menu/Feature	Test Case	Expected Result	Result
1	Information about the service	Choosing 'home' menu	Appeared several services	valid
		Choosing 'service' menu	All the design services appear on the display page.	valid
2	Information about the product	Choosing 'home' menu	Appeared several products	valid
		Choosing 'service' menu	All the products appeared on the page display	valid
3	Login	Username & password Correct	Redirect into dashboard	valid
		Username & password Incorrect	Stay on login page	valid
4	Purchasing product online	Gives information about product that about to purchase	Appeared successful notifications	valid
5	Monitor purchased order	Input payment id correct	Appear information about order status	valid
		Input payment id correct	Appear information that the order is not in the database	valid

IV. CONCLUSION

Raiku Design has a big market now. It has digital display, e-commerce able to show information related to product and services that Raiku Design have. The information can be accessed by society for 24 hours 7 days in a row and wherever needed. There is an increase in the number of visitors about 557 people. If it viewed from the origin of the visitor access area, this e-commerce already accessed overseas such from Canada, United States, Australia, Germany, Great Britain, Chile, Russia Federation, India, China, South Korea, Israel, Netherlands, Ireland, Italy, and there are still more.

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